Description

The sidac is a silicon bilateral voltage triggered switch with greater power-handlingcapabilities than standard diacs. Upon application of a voltage exceeding the sidac breakover voltage point, the sidac switches on through a negative resistance region to a low on-state voltage.
Conduction continues until the current is interrupted or drops below the minimum holding current of the device.

Symbol

Applications:

High-voltage lamp ignitors
Natural gas ignitors
Gas oil ignitors
High-voltage power supplies
Xenon ignitors
Overvoltage protector
Pulse generators
Fluorescent lighting ignitorsHID lighting ignitors

Features:

Excellent capability of absorbing transient surge
Quick response to surge voltage (ns Level)
Glass-passivated junctions
High voltage lcmp ignitors

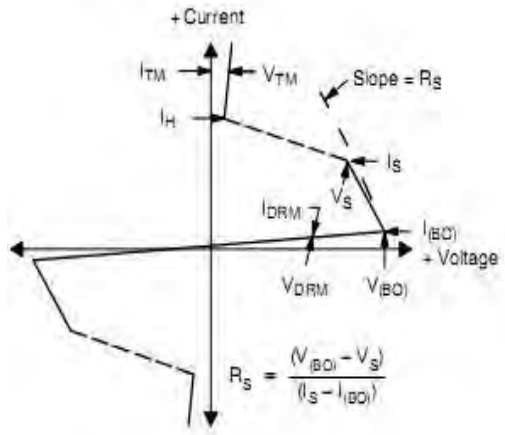
ABSOLUTE MAXIMUM RATINGS (TA=25oC, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage temperature range	T_{stg}	-40 to +125	℃
Operating junction temperature range	T_j	-40 to +125	℃
On-state RMS Current	I_T	1	A
Maximum surge on-state current non-repetitive one cycle peak value（50Hz）	I_{TSM}	16.7	A
Critical rate-of-rise of on-state current	di_T/dt	80	A

ELECTRICAL CHARACTERISTICS (TA=25°C)

Symbol	Parameter
V_{DRM}	Peak off-state voltage
I_{DRM}	Off-state current
V_S	Switching voltage
I_S	Switching current
R_S	Switching resistance
V_T	On-state voltage
I_H	Holding current
V_{BO}	Breakover Voltage
I_{BO}	Breakover current

V-I Curve

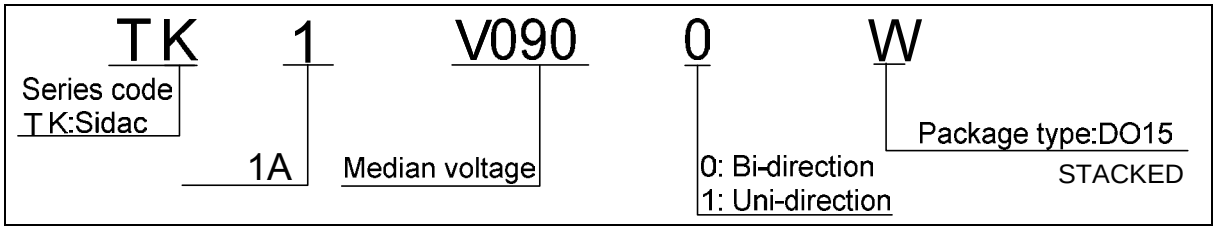


ELECTRICAL CHARACTERISTICS (TA=25°C, continued)

Part Number	I_{DRM}@V_{DRM}		V_{BO}		I_{BO}	V_T@ I_T=1A	I_H	R_S	Marking
	μA	V	V		uA	V	mA	kΩ	
	max	min	min	max	max	max	typ	min	
TK1V0900W	1	70	80	97	50	3	30	0.1	TBD
TK1V1050W	1	90	95	113	50	3	30	0.1	TBD
TK1V1200W	1	100	110	125	50	3	30	0.1	TBD
TK1V1300W	1	110	120	138	50	3	30	0.1	TBD
TK1V1400W	1	120	130	146	50	3	30	0.1	TBD
TK1V1500W	1	130	140	170	50	3	30	0.1	TBD

Part Number	I_{DRM}@V_{DRM}		V_{BO}		I_{BO}	V_T@ I_T=1A	I_H	R_S	Marking
	μA	V	V		uA	V	mA	kΩ	
	max	min	min	max	max	max	typ	min	
TK1V1800W	1	160	170	195	50	3	30	0.1	TBD
TK1V2000W	1	180	190	215	50	3	30	0.1	TBD
TK1V2200W	1	190	205	230	50	3	30	0.1	TBD
TK1V2400W	1	200	220	250	50	3	30	0.1	TBD
TK1V2600W	1	220	240	270	50	3	30	0.1	TBD

ORDERING INFORMATION



SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see FIG.2)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L) (Liquid us)	+217℃
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)℃
Time within 5℃ of actual Peak Temp (t_p)		8-15 secs.
Ramp-down Rate		6℃/sec. Max
Time 25℃ to Peak Temp (T_P)		8 min. Max
Do not exceed		+260℃

FIG.1: Maximum allowable ambient temperature versus on-state current

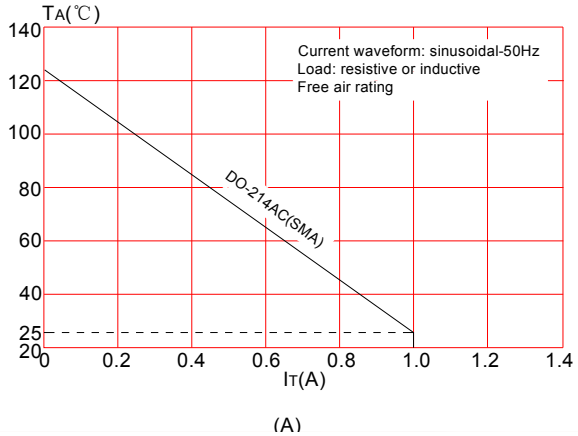


FIG.2: Reflow condition

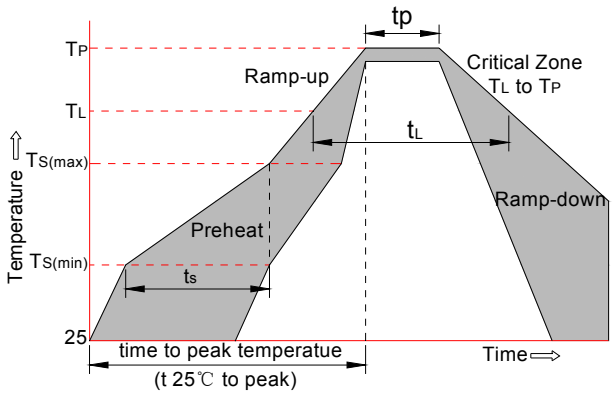


FIG.3: Normalized Vs change vs. junction temperature

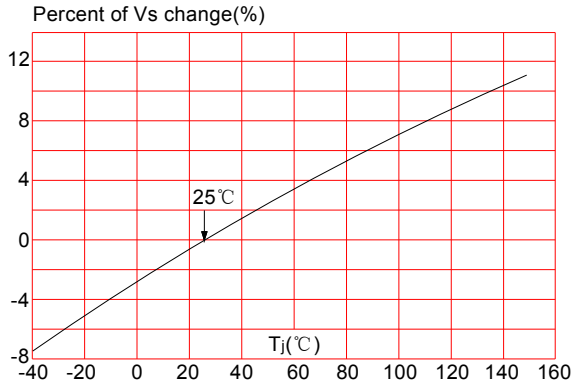
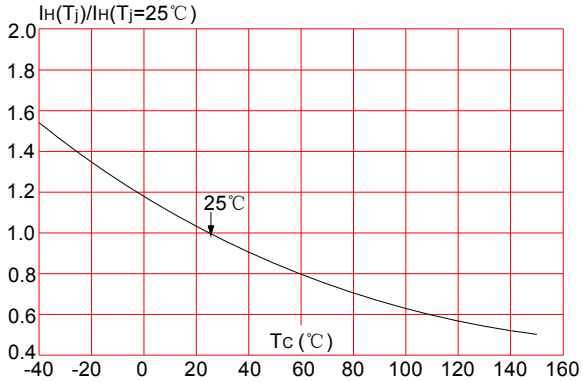
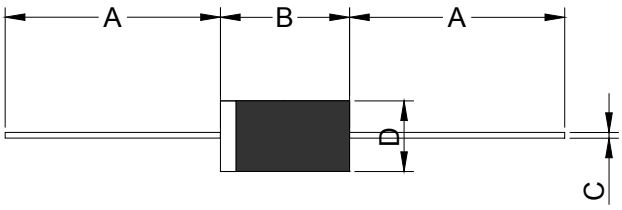


FIG.4: Normalized DC holding current vs. case temperature



PACKAGE MECHANICAL DATA



Ref.	Dimensions			
	Inches		Millimeters	
	Min.	Max.	Min.	Max.
A	1.000	-	25.40	-
B	0.228	0.300	5.80	7.62
C	0.027	0.035	0.69	0.89
D	0.118	0.140	3.00	3.60

Part Number	Case Type	Quantity	Packing Option
TK1VxxxxW	DO-15	2000	Box